

ASSESSING THE DIFFERENCES IN BELIEVABILITY AND USE OF ALCOHOL
PREVENTION INFORMATION SOURCES BY COLLEGE STUDENTS

Honors Thesis

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By

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ABSTRACT

Campus wide alcohol prevention and intervention programs rely on media channels such as the internet, television, brochures etc, to channel alcohol education messages to students. This approach is based on education and raising awareness of high risk drinking consequences in an attempt to reduce high risk drinking behavior. This study seeks to understand the relationship and assess the differences of believability and use of alcohol information sources amongst high, moderate and low risk drinkers identified by the more than 5 drinks to men and 4 drinks to women in the past two weeks binge measure. By identifying the most believable and used information sources by college student drinkers of varying intensities, this study hopes to shed light on the most viable and efficacious alcohol education message and programming channels specific to each group of student drinkers.

The collected data was from the Spring 2006 National College Health Assessment Survey that randomly surveyed students from The Ohio State University. Statistical analysis using SPSS version 14.0 was performed on the data set. This study serves to provide a deeper insight into students use and opinion of alcohol education and prevention efforts on The Ohio State University campus.

DEDICATION

To my mother

ACKNOWLEDGMENTS

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LIST OF ABBREVIATIONS AND TERMINOLOGY

Binge/ High Risk Drinking – National standard measure of 5 or more drinks for men/4 or more drinks for women, in a row one or more times during a two-week period.¹⁰

Drink – A 12-ounce can or bottle of beer, a 4-ounce glass of wine, a 12-ounce bottle or can of wine cooler, or a liquor shot drank straight or mixed in a drink.¹¹

Frequent Binge Drinking – Male and female combined measure of binge drinking 3 or more times in the past 2 weeks.⁹

ACHA-NCHA – American College Health Assessment-National College Health Assessment

OSU – Ohio State University

SWC – Student Wellness Center

CHAPTER 1

a. **Problem Statement**

Binge drinking and the entailing consequences, have been a long standing and increasing problem on college campuses nationwide. Nationwide yearly estimates reveal that over 1,700 deaths, 97,000 assaults, 599,000 injuries and 696,000 assaults involved high risk college drinking.¹ In order to combat these problems, alcohol prevention efforts on campuses often focus on educating students on the dangers of alcohol utilizing various mediums as message channels. Messages are channeled through campus newspapers, posters, brochures, peer educators etc, but little research has been conducted to understand the believability and actual use of these message channels nationwide and at The Ohio State University.² Furthermore, the variation of drinking behaviors among students implies that messages as well as message channels must be target sensitive and specific to be effective.³ Identifying message channels that are deemed credible and are heavily utilized by the target audience will significantly enhance prevention efforts on campuses and ensure energy and resources are devoted in the most efficacious manner.

b. Review of Literature

National data reporting the extent of college student alcohol use and related consequences has revealed the alarming trends occurring on college campuses. From 1998 to 2001 alcohol related injury deaths increased from close to 1,600 to more than 1,700 among 18-24 year old college students.¹ Alcohol induced assault has been experienced yearly from 1998 to 2001 by more than 600,000 students.^{1, 4} It is no wonder why college student binge drinking and the associating problems have been on the forefront of campus public health initiatives since the early 1990s.

Prevention and intervention programming have often utilized education-based approaches. This type of programming focuses on informing students on the risks, dangers and consequences of heavy drinking, so as to reduce engagement in the behavior. Although these classroom education strategies have been found to increase alcohol related knowledge, the documented effect on reducing dangerous drinking has shown limited efficacy.⁶ In an attempt to emphasize more comprehensive prevention strategies, the Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism (NACAAA) have highlighted a multiple level approach to combat binge drinking on campuses.⁷

This multiple level approach takes into account the numerous levels of influence that affect college student drinking. Since individual, group, institutional and environmental factors are involved in affecting students' decisions to drink, prevention efforts that have recruited all these levels have experienced an increase in intervention scope and efficacy.⁷

Understanding the customs and beliefs that surround the culture of college student drinking has been highlighted by the 2002 National Institute on Alcohol and Alcoholism (NIAA) College Drinking Task Force report, as an important component in enhancing prevention strategies.⁷ Since the culture of student drinking varies among campus sub groups, the message channels and information sources used may be viewed, judged and utilized differently by each subgroup.²

Findings from the 4 Harvard School of Public Health College Alcohol and Study Surveys revealed that in 2001 42.4% of freshmen, 42.8% of sophomores, 45.9% of Juniors, 45.6% of Seniors and 64.3% Greek system students surveyed reported frequent binge drinking. Binge drinking rates among these subgroups have been on the increase since 1993.⁹ Subgroup rates on the Ohio State University (OSU) campus vary as well with 50.6% of freshmen, 50.5% of sophomores, 59.8% of Juniors, and 50.0% of seniors surveyed in 2002 reported binge drinking.¹² The reported rate of binge drinking among all students at OSU according to the 2003 NCHA survey was 40.0% whereas the 2004 Core Alcohol and Drug survey reported binge drinking at 39.8%.^{12,13} The frequency of high-risk drinking rates among all undergraduate students at OSU was reported at 48.9% (NCHA, 2003) and at 52.4% (CORE, 2004).^{12,13}

Binge drinking is a serious issue nationwide as well as at OSU. Current prevention programming and efforts geared towards students are outlined by the Student Wellness Center Alcohol Education and Prevention Plan. Foundations of the plan include nine components and are as follows:

Assessment & Evaluation

Focuses on defining the alcohol & drug problem to define how successful current approaches are at reducing binge drinking and other drug abuse on the campus. This is done by conducting the CORE Alcohol and Drug Survey, the National College Health Assessment survey, additional surveys and evaluations conducted by Student Affairs Assessment as well as conducting program evaluations by the Student Wellness Center.¹⁴

Policy Review

Policy review is conducted to insure that OSU provides clear, widely circulated and appropriate guidelines for the use of alcohol on campus, and that enforcement is consistent.¹⁴

Moonlight Madness Late Night Programming

Seeks to provide alternative alcohol free activities that are attracting to students for socializing and enjoyment.¹⁴

Social Norms Marketing

Focuses on correcting students' misperceptions about the amount of alcohol consumed by their peers. By correcting drinking norms misperceptions this strategy theorizes that a reduction of ones drinking may occur as people tend to align behavior to normative standards. Advertisements of normative data are displayed on the SWC website, bulletin boards, newspaper advertisements, poster and promotional items.¹⁴

Responsible hospitality Initiatives/Party Smart

This programming educates and encourages local commercial and private party hosts to plan events that encourage minimization of the legal, social and physical risks that usually follow alcohol use.¹⁴

Educational Programs

The goal is here is to increase students' knowledge of the effects and consequences of alcohol and drug use as well as to increase awareness of signs of abuse and dependency. This is done via workshops, lectures, information tables, 21st birthday letters, bulletin boards, posters, pamphlets and website materials.¹⁴

Student Assistance

The function of this component is to offer services and support for students who incur physical, social, and psychological and any related consequences of alcohol and drug use. Services include the Brief Alcohol Screening and Intervention for College Students (BASICS), Tobacco cessation information via MyStudentBody.com and OSU Counseling and Consultation Services.¹⁴

Faculty Involvement

Encourages curriculum infusion of alcohol and drug education into the classroom via SWC Staff sponsored workshops, luncheons and educational presentations.¹⁴

Student Involvement

This is encouraged by the SWC including students in the planning, implementation and evaluating processes of alcohol and drug prevention programming.¹⁴

These alcohol awareness and abuse prevention strategies at OSU are in suit with the multilevel approach that is gaining momentum and support on college campuses. The

multilevel approach depends on various tools and outlets to reach the student audience. The successful communication of the dangers of alcohol, personalized feedback, state law, policy towards drinking, social normative messages and alcohol free activities involved in the multilevel approach depend on the scope ability and actual use of the message channels by students.^{2,8} It is therefore clear that in order to formulate and integrate educational, normative and multilevel prevention strategies, the culture, attitudes and use patterns of students towards intervention tools and sources have to be thoroughly understood.⁵

Reviewing *tables 1.2 and 1.3* from data reported on the OSU NCHA 2003 spring survey, it is apparent that there were differences in reported believability and use of health information by student age and rank.¹³ Reviewing *figure 1.1* that highlights the percentage of students reporting believability and use of sources of health information, reveals that there is great variation of responses for each of the variables. Believability is ranked highest for reputable health information sources (health staff, educators and coursework) but use is the lowest for these three sources. Parents (70.3%) are the highest used source followed by the internet (68.8%).¹³

What is important to recognize from table 1.3 is that only 39.3% (n=219) undergraduate OSU students aged 21-24 reported receiving alcohol and other drug prevention information in 2003.¹³ Despite the fact that 49.9% (n=198) illegal age drinkers at OSU compared to 36.6% (n=358) of legal drinkers reported being significantly more likely to have engaged in binge drinking in the last two weeks, the low percentage (39.3%,n=219) of students aged 21-24 reporting receipt of information is of great concern.^{12,13} These

students are of legal age and therefore have a significant barrier removed to participating in binge drinking.

The relationship between drinking behavior, believability and actual use of alcohol prevention information sources by OSU students must be assessed in order to pinpoint the most efficacious channels for messages and programming to OSU students. Assessing believability and use by drinking intensities will enable the honing in on message channels that will be subgroup specific, so as to complement the comprehensive strategy outlined by the Taskforce of the National Advisory Council on Alcohol Abuse and Alcoholism as well as the OSU SWC.^{7,14}

c. Objectives

The purposes of this study are:

- To understand the relationship and differences between OSU students drinking behavior and OSU students believability and use of sources of alcohol prevention information.
- To offer recommendations of the most viable message channels for prevention information and programming to high risk drinkers at OSU.

Research Questions:

1. What are the demographic and student characteristics that are associated with the drinker risk variables of high, moderate and low risk?
2. What are the differences in the reported use of information sources in relation to students drinking (high, moderate and low risk)?
 - 2a. H (o): There are no differences in the reported use of information sources in relation to students drinking behavior (high vs.

moderate vs. low risk).

3. What are the differences in the reported believability of alcohol prevention information by high, moderate and low risk student drinkers?

3a. H (0): There are no differences in the reported believability of alcohol prevention information by high, moderate and low risk student drinkers.

Table 1.1: Nationwide Campus Alcohol Related Mortality & Morbidity

Deaths	Sexual Assaults	Injuries	Assaults
1,700	97,000	599,000	696,000

Source: Hingson, R., Heeren, T., Winter, M., and Wechsler, H. (2005). Magnitude of alcohol-related mortality and morbidity among U.S. college students ages 18-24: changes from 1998 to 2001. Annual Review of Public Health, 26, 259-79.

Table 1.2: Percentage of OSU Students Reported Receiving Alcohol & Other Drug use Prevention Information

Rank Comparisons

1 st Year Undergrads (n=76)	2 nd Year Undergrads (n=88)	3 rd Year Undergrads (n=99)	4 th Year Undergrads (n=72)	5 th Year Undergrads (n=45)
77.6%	69.3%	48.5%	37.5%	26.5%

Source: NCHA- General Health Report Spring 2003 OSU Student Affairs Assessment

Table 1.3: Percentage of OSU Students Reported Receiving Alcohol & Other Drug Use Prevention Information

Age Comparisons

18-20 Years-Old (n=199)	21-24 Years-Old (n=219)	25-29 Years Old (n=82)	30-45 Years Old (n=51)	46+ Years-Old (n=8)
69.8%	39.3%	20.7%	13.7%	12.5%

Source: NCHA- General Health Report Spring 2003 OSU Student Affairs Assessment

CHAPTER 2

Assessing the Differences in Believability and Use of Alcohol Prevention Information Sources by College Students

a. Methodology

Secondary data analysis using SPSS version 14.0 of the American College Health Association-National College Health Assessment Survey (ACHA-NCHA) administered at OSU in Spring 2006 was performed. This survey was comprehensive in nature, and was designed to evaluate the wide range of students' health exploring general health, alcohol and drug use, sexual activity, physical activity, and nutrition. To ensure generalizability, the ACHA-NCHA evaluated and compiled surveys of schools that randomly selected students or randomly selected classrooms to take the survey. Validity and reliability was established by comparing ACHA-NCHA percentages to nationally representative databases such as the:

- National College Health Risk Behavior Survey, CDC, 1995
- Harvard School of Public Health 1999 College Alcohol Study
- US Department of Justice: the National College Women Sexual Victimization Study 200 (NCWSV)
- ACHA-National College Health Assessment 1998, Spring 1999 Pilots, ACHA-NCHA Spring 2000

The ACHA-National College Health Assessment ensured that each participating school performed the survey in the same manner utilizing random selection to ensure that generalizability, validity and reliability were not compromised.

b. Population and Sample

The 2006 survey was randomly administered via the internet to a sample of undergraduate, graduate and professional students at OSU, 585 responses were returned. The researchers enforced strategies approved by the OSU Institutional Review Board to ensure that the response rate, quality, random selection and confidentiality of the survey were not comprised. This sample size was ideal for the statistical analyses that were performed.

c. Design

The ACHA-NCHA Spring 2006 survey was a cross sectional descriptive study.

Measures

The items that were analyzed in this study were from the 2006 ACHA-NCHA health assessment.

Student Drinker Risk Demographic Variables

In order to categorize the students demographics of reported age, rank, ethnicity, housing assignment, and Greek involvement the following questions were analyzed:

Question # 45: How old are you?

Age (Years)

18	25
19	26
20	27
21	28
22	29
23	30

Question # 51: How do you usually describe yourself?

White - not Hispanic

Black - not Hispanic

Asian or Pacific Islander

American Indian or Alaskan

Other

Question # 54: Where do you currently live?

1 Campus residence hall

4 Off-campus housing

2 Fraternity or sorority house

5 Parent/guardian's home

3 Other university/college

6 Other

Alcohol use

There was one indicator of alcohol use utilized in the analysis –the number of times within the last two weeks that respondents had five or more alcoholic drinks at one sitting (question # 16).

Question # 13: The last time you “partied”/socialized, how many alcoholic drinks did you have?

0-2 Drinks = Low Risk

3-4 Drinks = Moderate Risk

5+ Drinks = High Risk

Receipt of alcohol prevention information sources

On which of the following health topics have you ever received information from your college or university (Yes/No to each)? Answer of Yes to # 1

- | | |
|--|-----------------------------------|
| 1 = alcohol and other drug information | 7 = Sexually Transmitted Diseases |
| 2 = Sexual Assault/Relationship Violence | 8 = AIDS/HIV Infection |
| 3 = Physical Activity and Fitness | 9 = Dietary Behaviors & Nutrition |
| 4 = Violence Prevention | 10 = Pregnancy Prevention |
| 5 = None of the Above | 11 = Injury Prevention & Safety |
| 6 = Tobacco Use Prevention | 12 = Suicide Prevention |

Use of Alcohol Prevention Information

This variable was assessed by analyzing the responses to question # 4 that asked students if they had received alcohol prevention information from a list of fourteen sources.

Responses of yes was used to report use of the health information source.

Question # 4: Do you usually get health related information from any of the following sources (and what is the) believability of each source of information (Yes/No response)?

Sources

- | | |
|-----------------------------|-------------------------|
| Health Center Staff | Magazines |
| Health Educators | Religious Center |
| Faculty/Coursework | Internet/World Wide Web |
| Parents | Friends |
| Leaflets, Pamphlets, Flyers | Television |

Campus Newspaper Articles

Other

Campus Peer Educators

Resident Assistants/Advisors

Believability of Alcohol Prevention Information

To analyze this variable question # 3 was reviewed which asked students to indicate how believable they found each source of alcohol prevention information. The responses were coded as 1= believable, 2= neither believable nor unbelievable, and 3=unbelievable.

Question # 3: Use the scale below to record the BELIEVABILITY of each source (listed in question 4) of health information.

1= Believable

2= Neither believable nor unbelievable

3 = Unbelievable

d. Data and Instrumentation

This study analyzed the ACHA-NCHA survey administered at OSU in Spring 2006 utilizing SPSS 14.0. Access and permission to use this secondary database for the purposes described was granted by The Ohio State University Student Affairs Assessment office. Due to the utilization of secondary data, this study was IRB exempt.

Chapter 3

Assessing the Differences in Believability and Use of Alcohol Prevention Information Sources by College Students

a. **Analysis:**

Analysis of the sample demographics revealed that a majority of respondents were white (83%), full time students (95%), and lived off campus (64%). Average age was 23 years, with women comprising of a larger portion of the sample (58%) than men (41%). Below is a breakdown for the 2006 sample. In terms of ethnicity, minority students were misrepresented, with majority of students being white. Majority of the sample (64.3%) lived off campus which is a very different environment than on campus.

Table 3.1 Demographics & Student Characteristics: Source ACHA-NCHA Ohio State Executive Summary Spring 2006. n = 585

■ Students describe themselves as:		■ Housing:	
White:	82.9 %	Campus residence:	23.0 %
Black – not Hispanic:	3.4 %	Fraternity or sorority:	2.3 %
Hispanic or Latino:	2.1 %	Other university:	1.7 %
Asian or Pacific Islander:	7.7 %	Off-campus:	64.3 %
American Indian or Alaskan Native:	0.3 %	Parent/guardian's:	6.1 %
Other:	2.7 %	Other:	2.6 %
■ Age:			
Average age:	23.34 years		
Median:	22.00 years		
Std Dev:	5.21 years		
18 - 20 years:	32.2 %		
21 - 24 years:	41.7 %		
25 - 29 years:	17.4 %		
30+ years:	8.8 %		
		■ Sex	
		Female:	57.8 %
		Male:	40.7 %

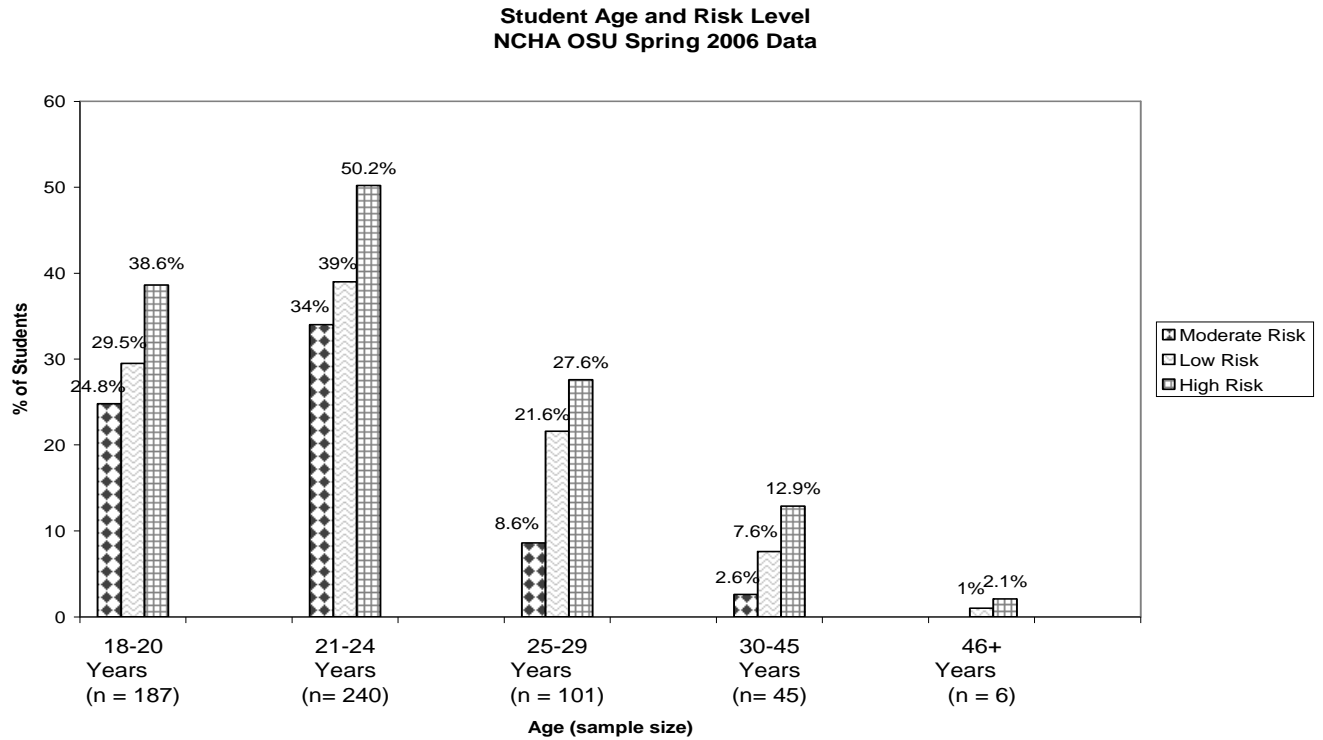


Fig 3.0

Based on the figure above, high risk drinking was reported the most by 50.2% of students who were 21-24 years old. High risk drinking was disproportionately higher within all age groups, with moderate and low risk drinking exhibiting similar amounts of respondents for students aged 18-24 years old. For students aged 25+ high risk drinking was not reported by too many students, whereas low risk drinking was most prevalent among students aged 25-29 years. Based on this analysis, it is apparent that students aged 18-24 years old (typical age of undergraduates) report moderate and high risk drinking disproportionately higher than those aged 25+ years.

Respondents reported believability and use of all the 14 health information sources in 2006 are displayed in Fig 1.2. Analysis in this study was limited to each of the top five most believed and used sources outlined below.

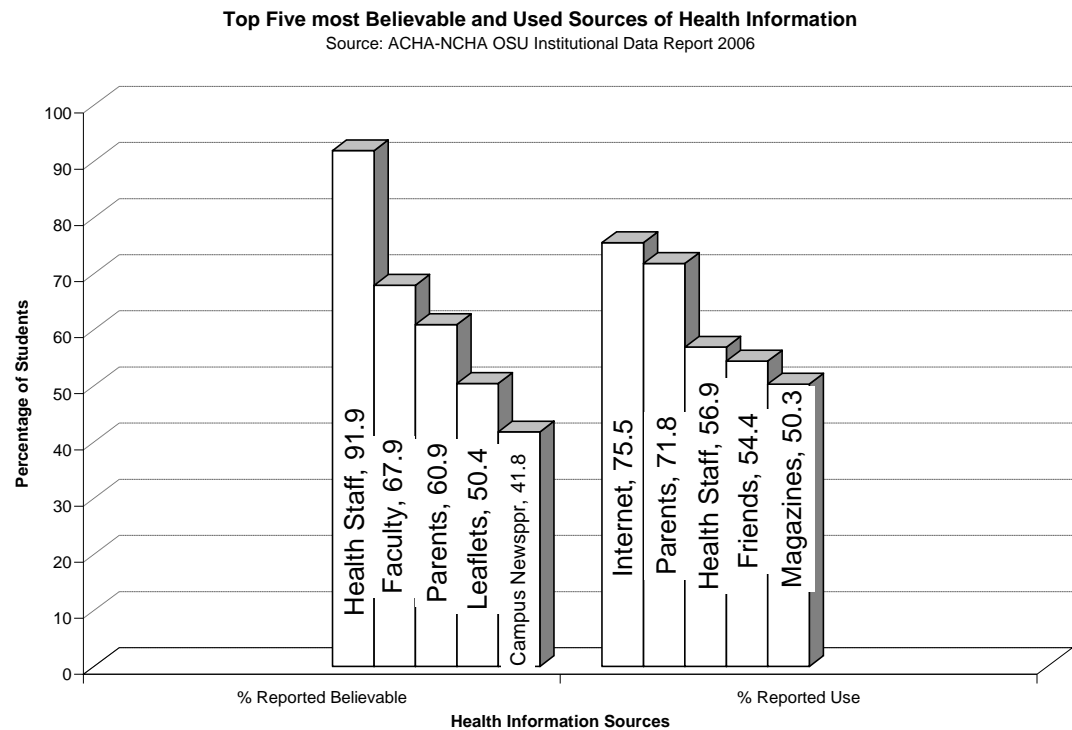


Fig 3.1

This figure represents sources that were reported as “believable” and also used by most students. Overlap among the top five sources existed only for health staff and parents. To analyze these sources in relation to drinker risk a cross tabulation of each of the sources with the drinker risk variable was performed.

Definitions of drinker risk variables (low, moderate high) for each measure were classified as follows in response to question 13: “In the last time you “partied”/socialized how many alcoholic drinks did you have?” Those who responded 0 – 2 drinks were classified as “low”, those who responded 3-4 drinks

were classified as “moderate”, while anyone responding 5 or more drinks was classified in the “high” risk category.

b. **Results:**

Believability and Use for Top Five Most Used Sources

Fig 3.2

Based on analysis comparing believability by drinker risk across the top five most believed sources, a larger percentage of low risk students reported believability for most of the sources e.g. health staff (*Fig 3.2*). *Figure 3.2* further highlights minimal variation in reported believability by drinking risk within source categories. However across source categories, there was significant variation of source believability as is seen by a steady decline in reported believability as we move down each category from health staff to campus newspaper (*Fig 3.2*). Overall moderate risk drinkers reported the highest believability for three out of the four top believed sources (health staff, faculty coursework and leaflets).

Fig 3.3

Most students disproportionately reported a higher use of parents clustering around 70% for the varying risks in comparison to use of the other four most believed sources (*Fig 3.3*). *Fig 3.3* unfolds a similar pattern to *Fig 3.2* as reported use by risk variation within each source category is minimal, however across source categories wide variation ensues as is seen with a clustering by low, moderate and high risk around 70% for Parents to a low cluster by risk of about 28% for use of Campus Newspaper. Generally Low risk drinkers reported the highest use for four out of the five top believed sources. Moderate

and high risk drinkers closely followed suite followed closely in terms of use across the different sources.

Believability and Use for Top Five Most Used Sources:

In terms of reported believability for the top five most used sources, variation was apparent within and between each category. It should be noted that a lower proportion of high risk drinkers rated Health Staff as a believable source (52.4%) compared to an average of about 60% for low and moderate drinkers. The internet was reported as a believable source of health information by 6.7% more high risk drinkers (at 25.4%) than the average of about 18.7% for low and moderate risk drinkers combined. Believability for parents and magazines clustered fairly evenly amongst drinker risk. Across health information source categories, differences in believability by all student drinkers were stark. Health staff and parents ranked in the top with the internet, friends and magazines following a fairly even distribution.

Analysis of the top five most used sources by drinker risk shows that on average variation across information source categories were minimal. Moderate risk drinkers reported higher use for three out of the four categories. Low risk followed closely in line with moderate risk except for magazines where high risk drinkers reported highest use. Although differences in reported use varied greatly across information source category, variation within each category by drinker risk did not fluctuate as significantly.

c. Discussion

Reviewing the reported believability and use for the top five most believed and used sources of health information, it is apparent that differences exist by 1) drinker risk

and 2) health information source. Comparing Fig 3.2 to Fig 3.3 which display the differences in both reported believability and reported use of the top five most BELIEVED sources shows that overall by source category (while clumping drinker risk together) there are differences in the reported believability and use of each distinct information source.

As we move across *Figs 3.2 and 3.3*, we notice that high believability does not necessarily translate into high use or vice versa. Health Staff in *Fig 3.2* for example are viewed by most as believable, however when we look at the use of this source, we find that parents as a source (ranked third for believability *Fig 3.2*) was reported by the majority as the most used source. High reported believability of a source does not guarantee a high reported use of that source by drinker risk. The reality that high believability as exhibited in *Fig 3.2* of Health Staff does not directly translate into that source being the top used source shows that alcohol prevention interventions must thoroughly consider utilizing sources including those that do not seem to have the high benefit of believability.

The high reported use of the top five most used sources by drinker risk show that though some of these sources are reported as having low believability, (e.g internet, friends and magazines) this does not hamper students' use of the sources. Even though believability can be really low such as for the internet at 18.1% for moderate risk (*Fig 3.4*), use for this source is reported very high (at 69.5%).

Drinking risk level displayed differences within source categories as well as across categories shows that attention must be paid to the risk level and message channels used to target groups. For example, high risk drinkers report highest use of magazines a

message channel that may be overlooked as more traditional forms of message channeling are easier and make more sense. Overall it can be understood that since use is high for sources reported with low believability, and drinking risk levels tend to generally cluster around each, rigorous program planning utilizing these sources (internet, parents, health staff, friends and magazines) could adequately reach the target audience.

It should be noted that generalizability of the sample size is limited due to overrepresentation by race (~83% white), gender (57.8% female) and living in off campus housing (64.3%). The small number of respondents (n=585) places limitations on generalizability. Also it should be noted that the responses analyzed were self report and therefore exhibit self report bias. Causality is not implied nor is it inferred from the performed analyses. Alcohol prevention programming can benefit from this data as message and programming avenues have been highlighted by student drinking risk. Differences in use and believability of the outlined sources enable prevention practitioners to identify strategies to incorporate sources that can augment their programming due to high student use.

Based on the multilevel prevention strategy highlighted by the Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism it is clear that OSU will benefit from this strategy as it takes into account the individual, group, institutional and environmental factors that influence college drinking. In terms of the current practices put forth by the OSU Student Wellness Center, it would be beneficial for prevention messages to be channeled through the internet especially the social networking websites as well as the campus newspapers and magazines that are utilized on campus. Creation

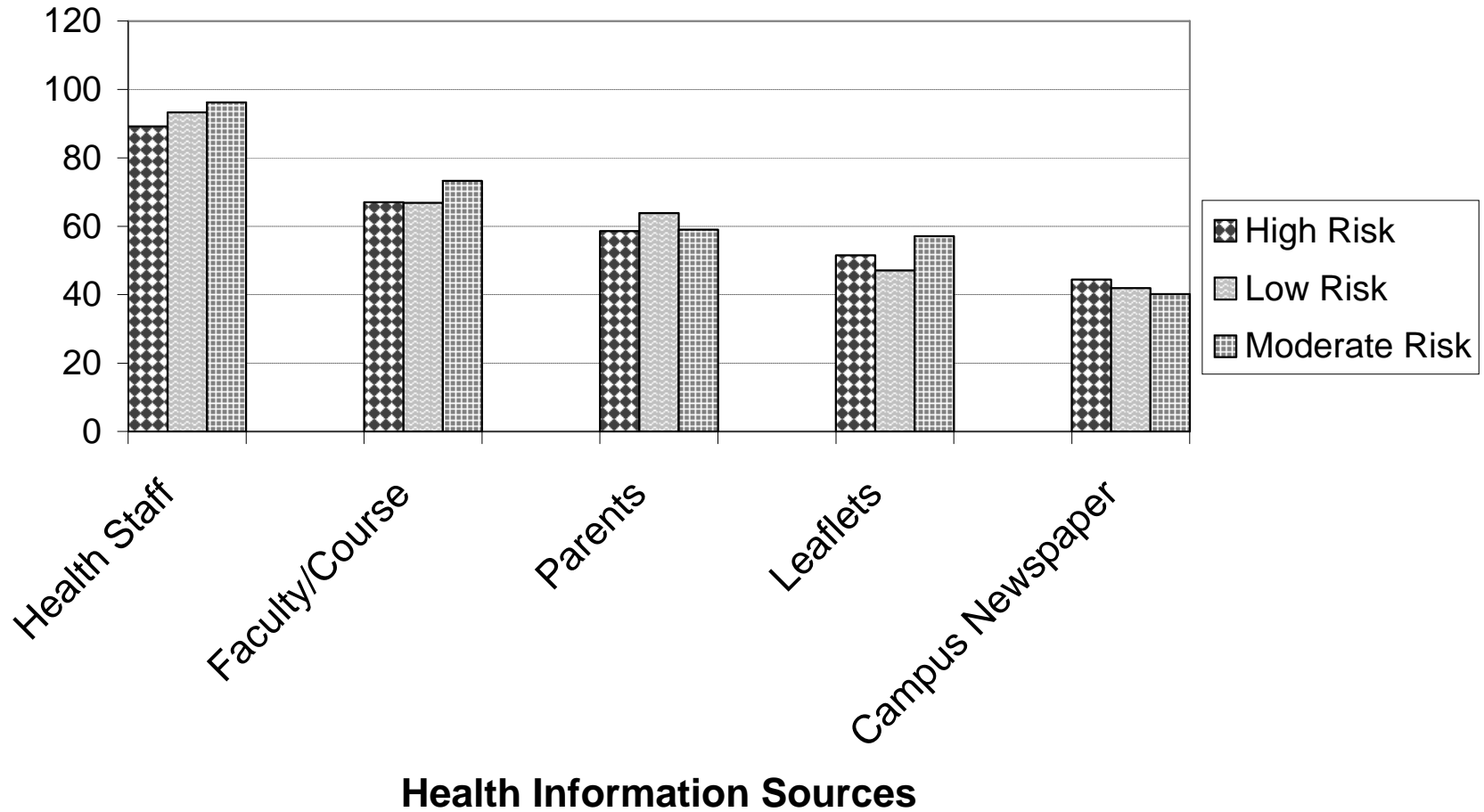
of tailored messages that are group specific and evidence based so as to boost credibility would be necessary within this student sample.

Implications for Future Research

Future research should try to repeat this analysis with a more representative sample size and gather more insight via focus groups or interviews to highlight sources that students access and view as credible when seeking alcohol education and prevention information. This would enable an in depth analysis that would shed light on students attitudes, perceptions and influences involved in the process of receiving and using alcohol prevention information.

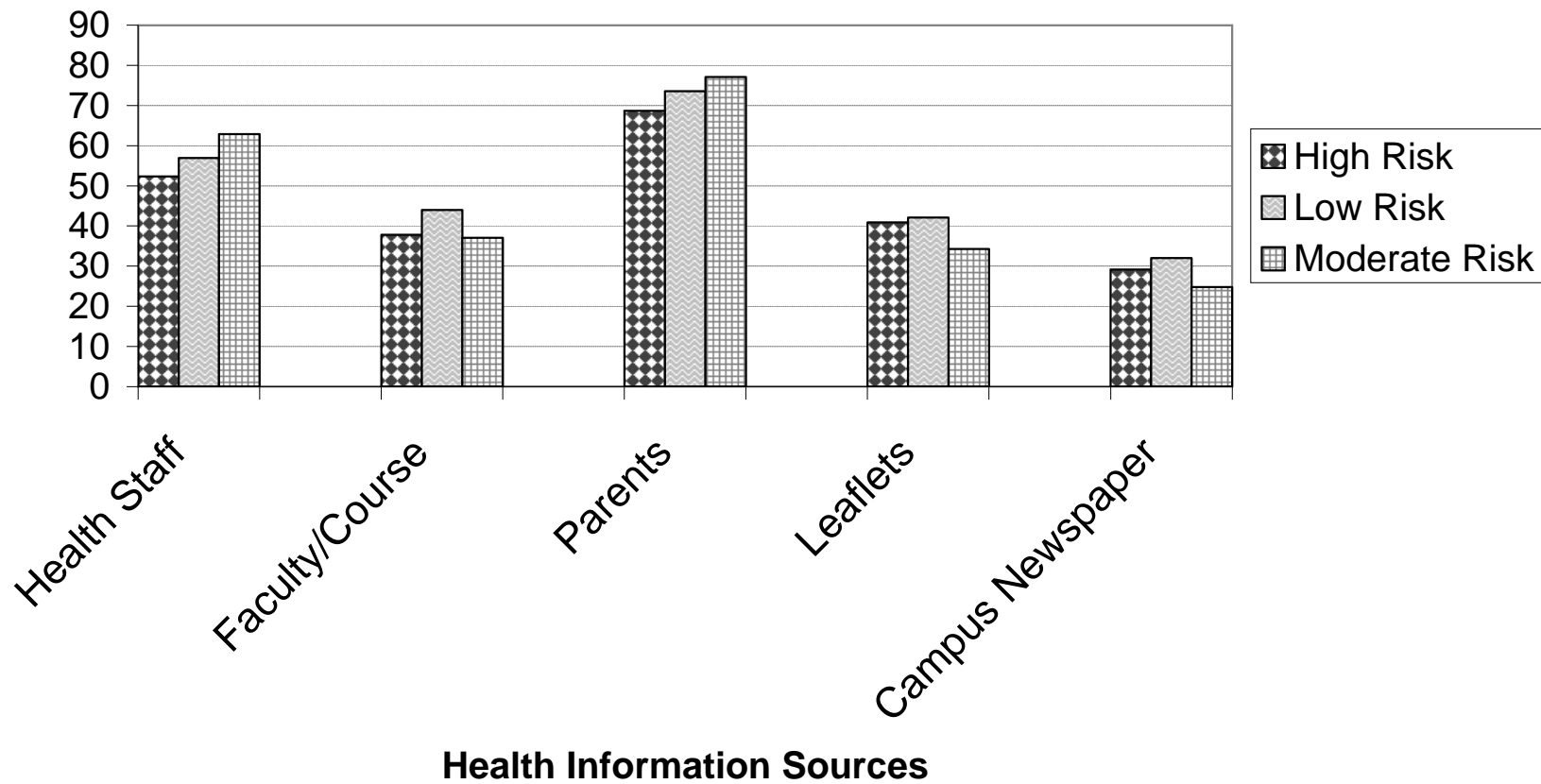
% of Students Who Report Believability for the Top Five Most Believed Sources

Fig 3.2



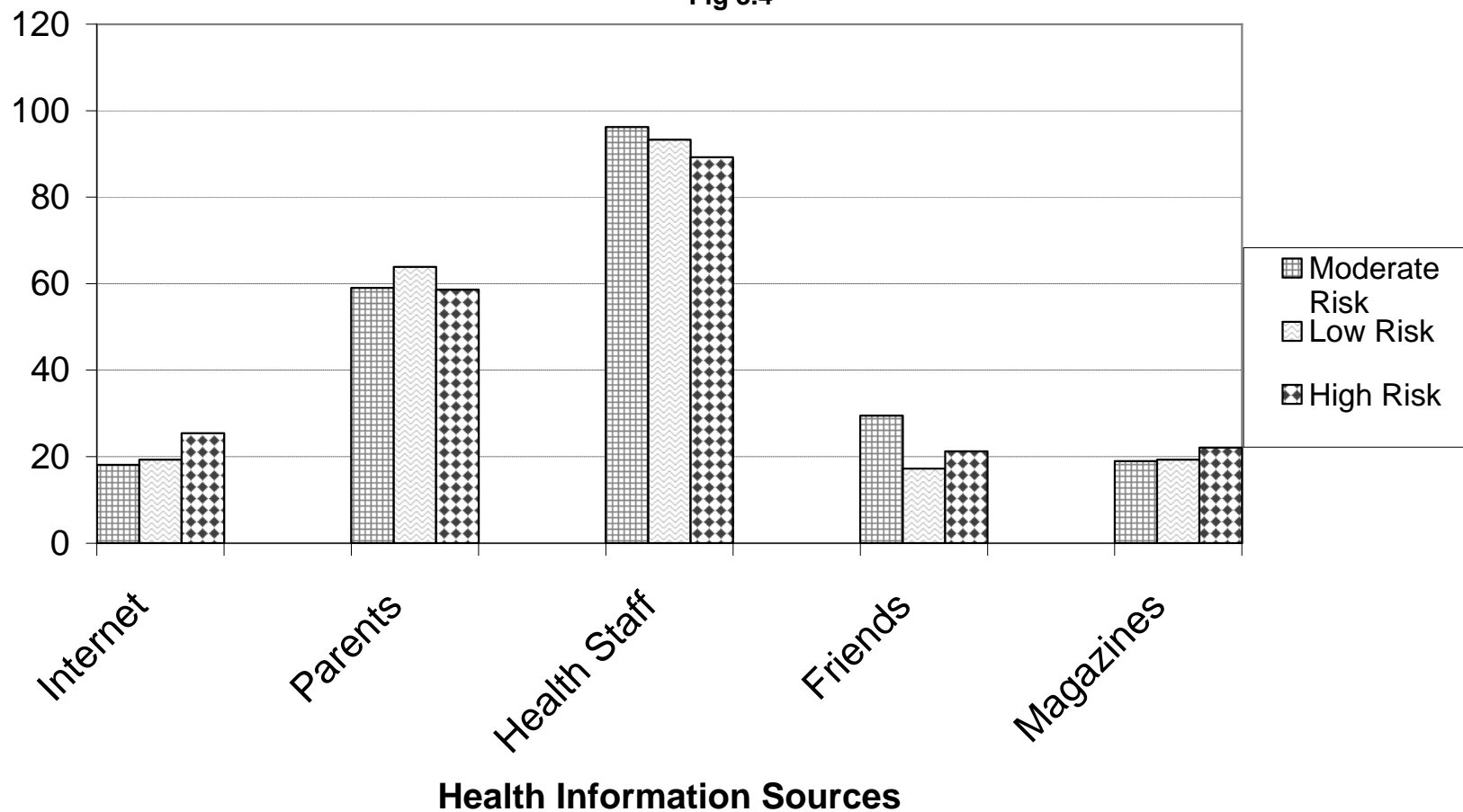
% of Students Who Report Use of the Top Five Most Believed Sources

Fig 3.3

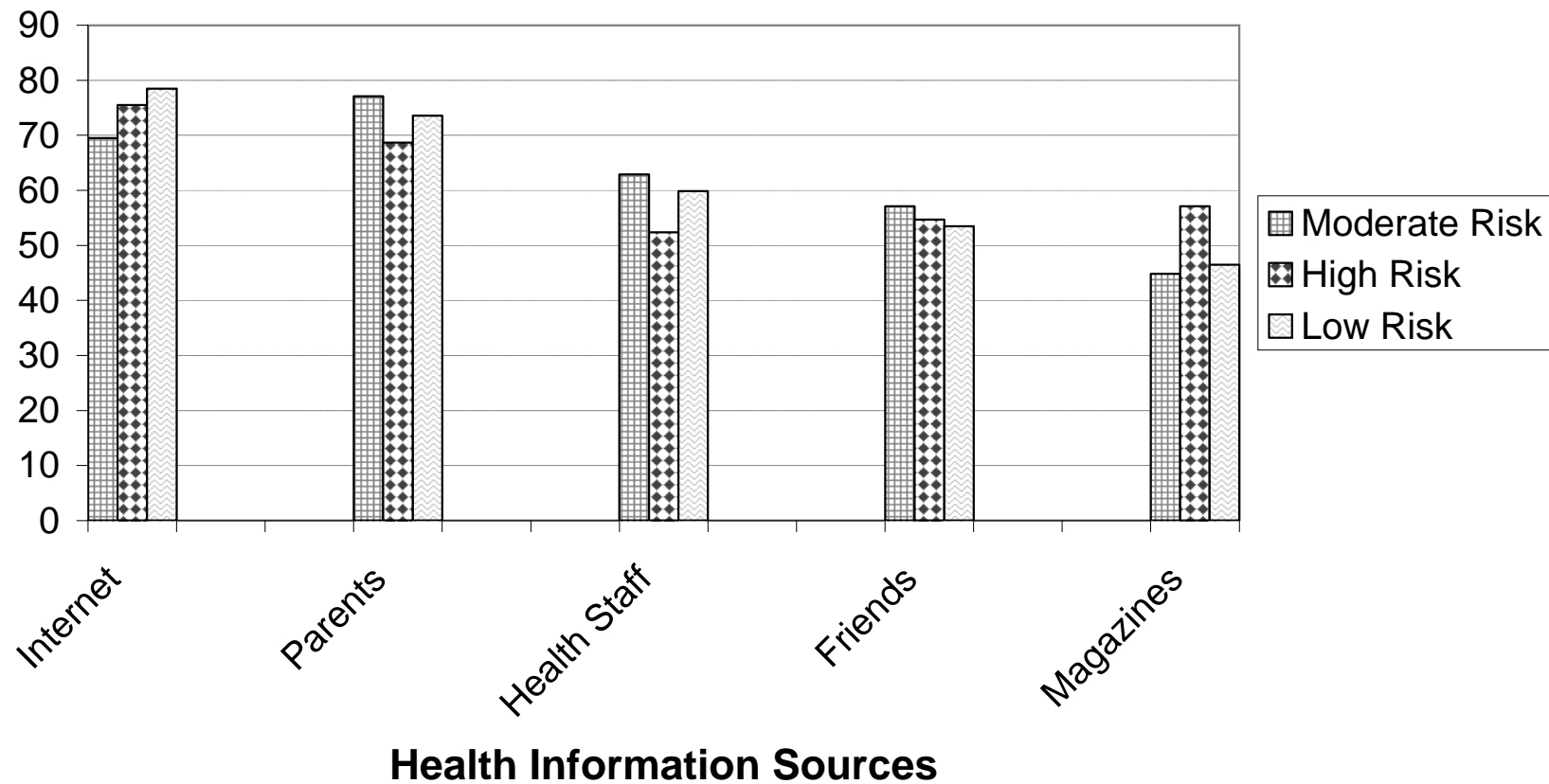


% of Students Who Report Believability for the Top Five Most Used Sources

Fig 3.4



**% of Students Who Report Use of the Top Five Most
Used Sources
Fig 3.5**



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Percentage of OSU Students Reporting Believability and Use of sources of Health Information

Source: NCHA General Health Report Spring 2003 OSU Student Affairs Assesment

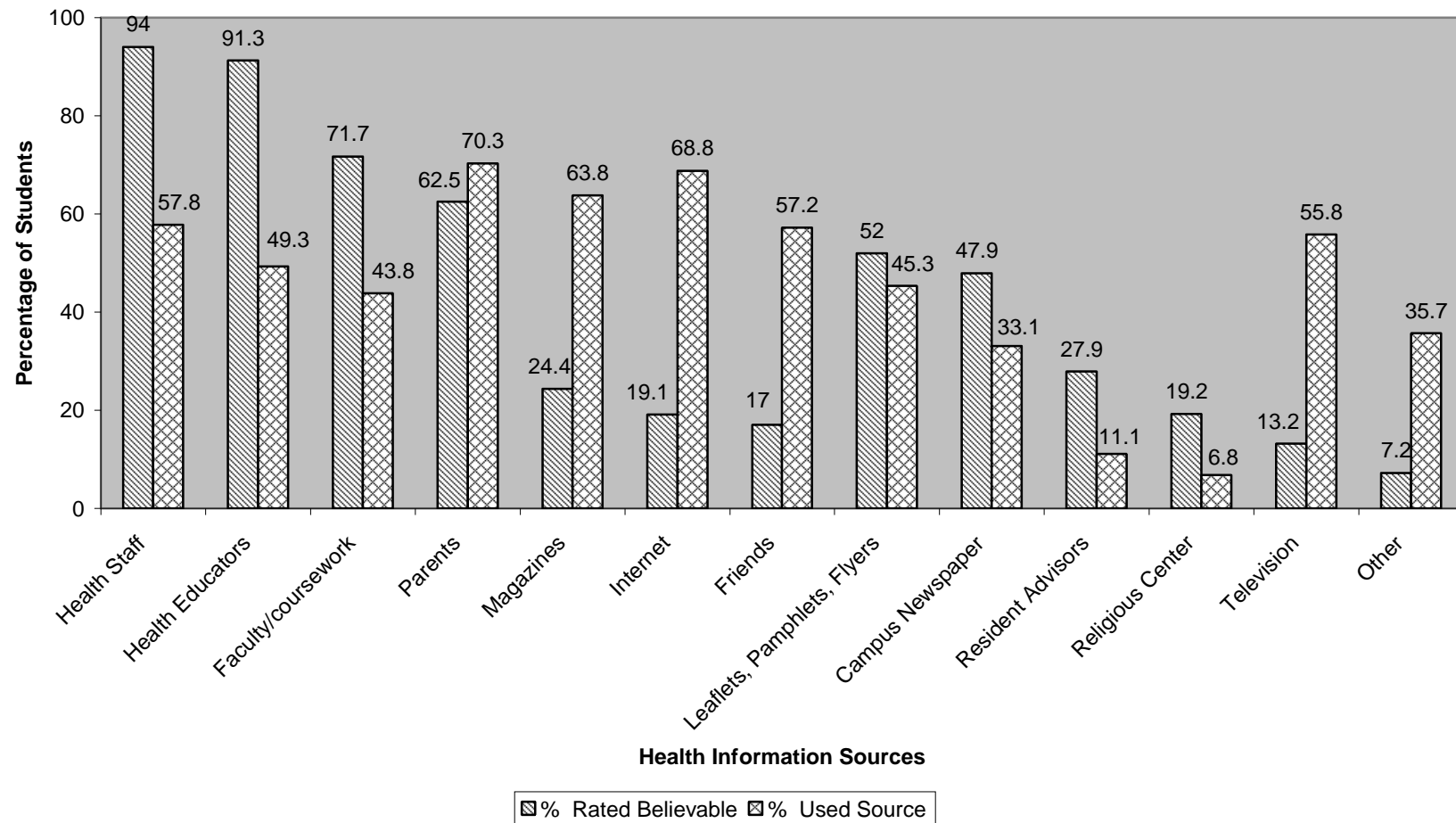


Figure 1.1

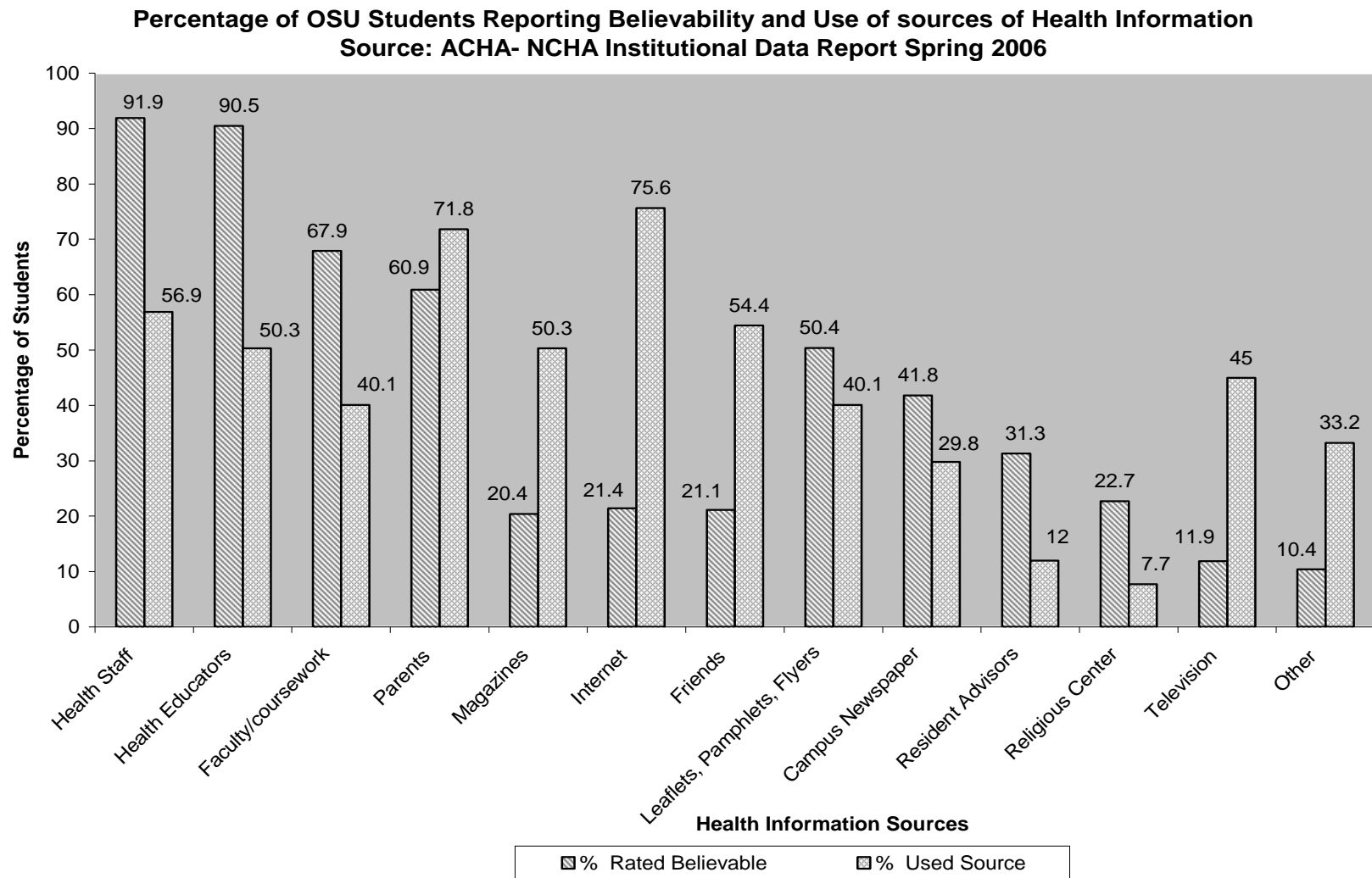


Figure 1.2